

ABSTRACT

A hazardous gas abatement system decontaminates an exit gas stream containing global warming gases using an electrical heater and a water scrubber. One or more top flow hazardous gas inlets introduce hazardous gases into a heater compartment. Air or oxygen is introduced into a separate chamber for dynamic oxidation and cooling. The streams are mixed and oxygen reacts with the hazardous gases. Solid particulates from the reaction are removed by a filter in a quick disconnect bottom chamber. Filtered exhaust gases flow upward in an exhaust chamber surrounding the heater compartment and through water spray scrubbers. A cleaning ring mounted on an eccentric rod cleans particles from the outside of the internal heater, and the inside of the external heater. An air cylinder drives the eccentric rod and cleaning ring down and up between the heaters and stores the ring above the gas inlets.